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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/557,069	04/21/2000	Sai V. Allavarpu	5181-48300	6636

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EXAMINER
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LAO, SUE X

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/557,069

Applicant(s)

ALLAVARPU ET AL.

Examiner

S. Lao

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-12, 14, 16, 18-10, 22, 24, 26-30 is/are rejected.
- 7) ☐ Claim(s) 13,15,17,21,23 and 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-30 are presented for examination.

3. The information disclosure statement filed 2/12/2002 requested consideration of multiple related applications listed in page 2, paragraph 3. Such applications need to be presented in PTO-1449 so that the examiner can initial to indicate the consideration. Further, applicant is reminded to maintain a clear line of demarcation between applications. MPEP § 822.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 18 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 18 and 26 recite "the abstract generic converter helper class" in lines 3-4. There is insufficient antecedent basis for this limitation in the claims. For the purpose of art rejection, it is interpreted as "an abstract generic converter helper class", as best understood and as it appears to be.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-12, 14, 16, 18-20, 22, 24, 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foody et al (U S Pat. 5,732,270) in view of Lynch et al ("Web Enabled TMN Manager").

As to claim 1, Foody teaches a network management system comprising:

a plurality of plug-in mapping modules (frameworks and modules, fig.s 2, 5), wherein the plurality of plug-in mapping modules are each operable to provide one or more mappings (Type Description Framework) for managed object data types (fundamental data types, complex data types) between an interface definition language (OSA1, IDL) and a target object notation (OSA2), wherein the interface definition language comprises a language (C++) for defining interfaces to managed objects (object systems) across a plurality of platforms (Orbix, COM, DSOM) and across a plurality of programming languages (first, second object models, C++, C), wherein the managed objects comprise instances of the managed object data types, wherein the target object notation comprises a language for describing data (object model);

a mapping framework (nine frameworks 1-9), wherein the mapping framework is operable to receive the plurality of plug-in mapping modules (dynamically loading), and wherein the mapping framework is operable to provide access (access and manipulate) to the plurality of plug-in mapping modules to facilitate the mapping (convert, col. 9, lines 13-15) of managed object data types (Class Description Framework, Type Description Framework) in accordance with the mappings for managed object data types provided by the plurality of mapping modules. See col. 7, lines 3-34; col. 10, line 63 - col. 12, line 28; col. 18, lines 37-52; col. 232, lines 29-52.

Foody does not teach that the second object notation is an abstract syntax notation which comprises a language for describing data.

Lynch teaches mapping (converter, translator) between an interface definition language IDL (CORBA IDL) and an abstract syntax notation (GDMO/ASN.1) which comprises a language for describing data (TMN-CORBA gateway). See page 123, left col.; page 124, right col. - page 125, right col..

Therefore, it would have been obvious to include an abstract syntax notation into the target object notation of Foody. The motivations to combine the teachings of Foody and Lynch include the following. Foody teaches inter-operating between incompatible systems (col. 1, line 55 - col. 2, line 11). The object systems of Lynch, CORBA and TMN/GDMO, are incompatible system (page 122, right col. - 123, left col.). Therefore, one of ordinary skill in the art would have been motivated to includes the systems CORBA and TMN/GDMO of Lynch into the systems of Foody so that several alternative inter-operation solutions (page 123, left col.) are made available.

As to claims 2 and 3, Foody as modified teaches (Lynch) the managed objects comprise a telephone system / a network switch (TMN). See discussion of claim 1.

As to claim 4, the mapping framework of Foody comprises a plurality of processes which are concurrently executable in that processes represented by modules of the framework run in Windows 3.1 / NT (col. 9, lines 48-61) which is a multitasking system.

As to claim 5, the interface definition language of Foody as modified by Lynch (Lynch, CORBA IDL) is by definition operable to provide a mapping to any managed object class / object system.

As to claim 6, Foody as modified teaches (Lynch) Abstract Syntax Notation One (ASN 1). See discussion of claim 1.

As to claim 7, Foody as modified teaches converter framework library (nine frameworks and class declarations contained therein) to provide an interface / wrappers to corresponding converter implementation classes (class code/member functions); converter implementation library / one or more plug-in mapping modules to provide mappings for the managed object data types between (code/member functions of classes in the nine frameworks). See discussion of claim 1.

As to claim 8, the combined teaching of Foody and Lynch would have provided a mapping/converter framework to map between IDL and ASN.1. Accordingly, ASN1 converter framework library (nine frameworks and class declarations contained therein) to provides an interface to map managed object data types between ASN1 and the IDL would have been obvious.

As to claim 9, Foody as modified teaches converter implementation library to map managed object data types between ASN1 and the IDL (nine frameworks and class declarations contained therein, discussion of claim 8), which is implemented in C++ (Foody, col. 9, lines 48-61).

As to claim 10, Foody teaches the converter framework library comprises a collection of classes (nine frameworks and class declarations contained therein), which act as wrappers to the underlying implementation classes in the converter implementation library because the foreign object notation can only be accessed through such interfaces/classes.

As to claim 11, it is basically a method claim of claim 1 and thus note claim 1 for discussion. Foody further teaches first data type (fundamental/complex data types) from a first set of data types (data types in first object system OSA1), corresponding second data type (fundamental/complex data types) from a second set of data types (data types in first object system OSA2), interface definition language is class independent [inherent to CORBA IDL]. The combined teaching of Foody and Lynch would have provided a mapping/converter framework to map between IDL and ASN.1, i.e., from IDL to ASN.1 and from ASN.1 to IDL. Therefore the first and the second sets of data types would have been expressed in an abstract syntax notation and in an interface definition language, respectively.

As to claim 12, Foody teaches abstract converter implementation class (Type Description Framework, Object Exporting Framework) which is a superclass for a type-specific converter implementation class (real object factory for the native object system) to convert specific managed object data types between the interface definition language

and the abstract syntax notation (IDL, col. 16, line 64 - col. 17, line 4). See col. 12, lines 9-28; col. 16, line 9 - col. 17, line 22.

As to claim 14, Foody teaches abstract value class (VClassData) which is a superclass for a generic value class (VInstanceData, VFunctionData, VPropData) to hold values in an abstract syntax notation generic type (long, short). See col. 10, line 63 - col. 12, line 8; fig. 5. It is noted that when the teachings of Foody and Lynch are combined, the interface definition language values in an abstract syntax notation generic type would have been held in a generic value class.

As to claim 16, Foody teaches abstract generic converter helper class (standard object server), which is a superclass for a generic converter helper implementation class (real object factory for the native object system) operable to create actual converters based on data types (create real object instances in the foreign object system). See col. 16, line 9 - col. 17, line 22.

As to claim 18, it is covered by claim 16. It is noted that the generic converter helper implementation class being a subclass of the abstract generic converter helper class is equivalent to the abstract generic converter helper class being a superclass of the generic converter helper implementation class.

As to claims 19, 20, 22, 24, 26, these are the program product claims of claims 11, 12, 14, 16 and 18, respectively, thus note claims 11, 12, 14, 16 and 18, respectively, for discussions.

As to claim 27, note the discussion of claims 1 and 11. Further, the framework of Foody as modified provides nine sub-frameworks (1-9, fig. 2), each of which contains a hierarchy of classes and subclasses to provide implementations/mapping/converting.

As to claim 28, note discussion of claim 12.

As to claim 29, note discussion of claim 14.


As to claim 30, note discussion of claims 16 and 18.

8. Claims 13, 15, 17, 21, 23 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Lao whose telephone number is (703) 305-9657. A voice mail service is also available at this number. The examiner's supervisor, SPE Alvin Oberley, can be reached on (703) 305 9716. The examiner can normally be reached on Monday - Friday, from 9AM to 5PM. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7238 for After Final communications, (703) 746-7239 for Official communications and (703) 746-7240 for Non-Official/Draft communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

Sue Lao   
September 25, 2003